

REMARKS

Claims 1-7, 10, 11, 18, and 20-22 remain in the application and stand rejected.

Claims 8, 9 and 19 have been canceled in this response. Claims 21 and 22 are new claims.

Reconsideration of the rejection is respectfully requested in light of the following reasons.

Claim Rejections

Claims 1 and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,963,412 to En (“En”). The rejection is respectfully traversed.

Claim 1 is patentable over En at least for reciting: “coupling the gate of the first transistor to ground after formation of the second metal wire.” En does not disclose or suggest coupling the gate 52 of transistor 46 to ground after formation of a metal wire in the device. In fact, En does not disclose or suggest coupling the gate 52 of transistor 46 to ground at any time.

In the rejection of claim 2, the last office action suggests that the teachings of U.S. Publication No. 2001/0026970 by Eitan et al. (“Eitan”) may be combined with that of En to render claim 2 obvious. More specifically, the last office action suggests that Eitan “discloses a step of coupling the gate of the first transistor (52, Fig. 7) to ground on a topmost metal level of the device.”

In Eitan, the gate of protection transistor 52 (the “first transistor”) is not left floating because it is connected by polysilicon line 54 to antenna 55. Eitan is clear that “the gate G of protection transistor 52 is controlled by a polysilicon line 54 (shown in dotted line) which is connected to antenna 55” and that “metal line 40, antenna 55 and connection 66 are formed from the same, first metal (metal 1) layer laid down on the chip” (Eitan, paragraph [0042]). Eitan, in paragraph [0049], also confirms that both the drain D and gate G of protection transistor 52 are connected to the same unit. Eitan FIG.

4B and accompanying text in paragraph [0052] further confirm that the gate polysilicon 60 of protection transistor 52 is connected by polysilicon line 54 to antenna 55. Eitan, in its claim 1, also recites that “said antenna is connected to the gate of said protection transistor.” Therefore, it is respectfully submitted that the gate of Eitan protection transistor 52 is tied to antenna 55, and is thus not left floating as required by claim 1.

From the above, it is clear that Eitan connects the gate of transistor 52 to antenna 55 at all times, not after formation of another wire. This is significant because claim 1 also recites that “a gate of the first transistor being left floating.” That is, claim 1 requires the gate of the first transistor to be floating and then coupling that gate to ground after formation of the second metal wire. Eitan **always** connects the gate of transistor 52 to antenna 55, while En **always** leaves the gate of transistor 46 floating. Neither Eitan nor En discloses or suggests **changing the connection of the gate of the protection transistor**. Combining one with the other would result in always floating or always connected gate. It is respectfully submitted that changing the connection of the gate of the protection transistor to prevent charge buildup during fabrication of a semiconductor device is only taught in the present disclosure, not in En or Eitan.

Therefore, it is respectfully submitted that claim 1 is patentable over En and Eitan

Claims 2-5, 7, and 10 depend on claim 1 and are thus patentable over En and Eitan at least for the same reasons that claim 1 is patentable.

Claim 18 is patentable over En and Eitan at least for reciting: “a gate of the first transistor being left floating **during the metallization process**” and “coupling the gate of the first transistor to ground **after the metallization process**” (emphasis added). Eitan **always** connects the gate of transistor 52 to antenna 55, while En **always** leaves the gate of transistor 46 floating. Neither Eitan nor En discloses or suggest leaving a gate of a protection transistor during metallization then coupling that gate of the protection transistor to ground after the metallization process.

Claims 6 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over En and Eitan in view of U.S. Patent No. 6,611,453 to Ning (“Ning”). Claim 11

stands rejected under 35 U.S.C. § 103(a) as being unpatentable over En and Eitan in view of U.S. Patent No. 6,281,737 to Kuang et al. (“Kuang”).

Claims 6 and 11 depend on claim 1, while claim 20 depends on claim 18. Neither Ning nor Kuang adds to En and Eitan in regard to claim 1 or 18. Therefore, claims 6, 11 and 20 are patentable over En, Eitan, Ning and Kuang at least for the same reasons their respective base claims are patentable.

Allowable Claims

In the last office action, claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for deeming claims 8 and 9 allowable.

New claim 21 incorporates all the limitations of then claim 1 and allowable claim 8. New claim 22 depends on claim 21. Therefore, it is respectfully submitted that claims 21 and 22 are allowable.

Conclusion

For at least the above reasons, it is believed that claims 1-7, 10, 11, 18, and 20-22 are in condition for allowance. The Examiner is invited to telephone the undersigned at (408)436-2112 for any questions.

If for any reason an insufficient fee has been paid, the Commissioner is hereby authorized to charge the insufficiency to Deposit Account No. 50-2427.

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Respectfully submitted,
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